DISCUSSION

Dr Robert J. Feezor (*Gainesville, Fla*). I congratulate the authors on an impressive series comparing open and endovascular management of traumatic aortic transection in which there was a statistically significant reduction in the rate of complications with endovascular therapy. I have several questions for the authors. You listed in tabular format that the predominant complication in both groups was respiratory. Is this truly a complication of the aortic treatment or a complication of the causative injury?

Second, in the Methods section, you mention that grade 1 injuries by computed tomography (CT) scan were further evaluated with intravascular ultrasound (IVUS) imaging and then medically managed if truly grade 1. What was the correlation between CT and IVUS imaging? How many patients fell into this category, and was there any clinical or radiographic follow-up for these patients?

Third, you waited an average of 11 days from injury to endovascular repair. This brings to light a larger debate as to which transected aortas need to be repaired at all. Do you have any data supporting repair of aortic transections that are stable enough to survive 11 days? As a corollary question, were there any patients in this series who were being stabilized but then were urgently taken for open repair (OR) or endovascular therapy because of some change in clinical appearance?

Again, I enjoyed your manuscript and presentation, and am grateful for the opportunity to lead the discussion.

Dr Ali Azizzadeh. Thank you very much, Bob. With regard to respiratory complications, many are related to the initial trauma. However, as shown in the study, patients who underwent open repair had a higher risk of developing pneumonia, respiratory failure, ventilator dependence, and other respiratory complications. With regard to management of grade 1 injuries, we recently published our experience with the use of IVUS in the *Journal of Vascular Surgery*. In patients with suspected aortic injury who had an equivocal CT scan, IVUS was more sensitive than aortogram as a follow-up imaging study. With regard to the follow-up imaging of patients with grade 1 aortic injuries, we have had five patients that healed on follow-up CT scan performed 6 weeks after the injury. The patients with grade 1 injuries are medically treated with anti-impulse control.

With regard to the interval to repair, we follow these patients very closely; however, if they have an associated head or abdominal injury that requires emergent treatment, we allow for the other specialists to intervene before treating the aortic injury, as long as the patient remains hemodynamically stable. If the patients are unstable, they are taken to the operating room emergently for thoracic endovascular aortic repair (TEVAR) or open repair as indicated. During the study period, since April of 2002, we have not lost any patients to aortic rupture after admission. There have been patients who have died on arrival. We have practiced delayed selective management as advocated by other centers, but moving forward, we are starting to be more aggressive with doing early TEVAR in the first 24 to 48 hours. Thank you.